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10/017,924	12/07/2001	Hsin-Hong Huang	10541/775	1505

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EXAMINER	
GARCIA, ERNESTO	

ART UNIT	PAPER NUMBER
3679	

DATE MAILED: 04/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/017,924	HUANG ET AL.	
	Examiner	Art Unit	
	Ernesto Garcia	3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2005 and 25 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 5-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 5-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Request for Information

Claims 1 and 6-8 appear to be directed to the same invention as that of claims 1, 6, 9, 10 and 13 of commonly assigned US6,702,508. The issue of priority under 35 U.S.C. 102(g) and possibly 35 U.S.C. 102(f) of this single invention must be resolved. Even though the terms used in the patent are different, the inventions do not differentiate from one another. In particular, the use of the term "out-of round cross section" is defined in the specification as polygonal and trochoidal cross sections (see col. 3, lines 60-67 to column 4, line 2) and therefore a trochoidal cross section inherently has a concave surface. If applicant believes the invention in the commonly assigned patent is not identical to applicant's invention, applicant should provide an argument and provide differences between the inventions in order to be sufficient to fulfill the request.

Since the U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302), the assignee is required to state which entity is the prior inventor of the conflicting subject matter. A terminal disclaimer has no effect in this situation since the basis for refusing more than one patent is priority of invention under 35 U.S.C. 102(f) or (g) and not an extension of monopoly.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Newell, 3,865,500 (see marked-up attachment provided in last Office Action).

Regarding claim 9, given the structure as recited in claim 14 below, the method is inherently performed. Therefore, Newell discloses a method comprising.

provide a driving member **11** with a first polygonal interface **14a** and a driven member **14,15** with a second polygonal interface **16**. The first polygonal interface **14a** has a first straight segment, a second straight segment, and a twisted segment positioned between the first and second straight segments. The second straight segment **15a**, the twisted segment **14b**, and the twisted segment **14b** engage the second polygonal interface **16**, and are all unitarily formed integral to the first polygonal interface or the second polygonal interface. The twisted segment **14b** is twisted from about 0 degree 10' to about 1 degree between the first straight segment **A6** and the second straight segment **15a**; and,

join the driving member with the driven member. Applicant is reminded that the method of forming the segments integral to the first or second polygonal interfaces is

not germane to the issue of patentability of the device itself. Therefore, this limitation has been given limited patentable weight. See MPEP ' 2113.

Regarding claim 10, the driven member **14,15** comprises a shaft and the driving member **11** comprises a flange.

Regarding claim 11, the driven member **14,15** comprises a shaft having a male polygonal interface.

Regarding claim 12, the driven member **14,15** comprises a shaft having a male polygonal interface. The twisted segment **14b** is twisted from about 0 degree 20' to about 0 degree 50'.

Regarding claim 13, the driving member **11** and the driven member **14,15** comprise one of a group consisting of a compressor, a pump, a machine tool, a mechanical drive, a generator, and a motor.

Regarding claim 14, Newell discloses, in Figure 1, a coupling comprising a shaft **14,15** and a mounting device **11**. The shaft **14,15** has a first polygonal interface **14a**. The mounting device **11** has a second polygonal interface **16**. The first polygonal interface **14a** is selected from the group consisting of concave, convex, and straight surfaces. The first polygonal interface **14a** includes a first straight segment **A6**, a

second straight segment **15a**, and a twisted segment **14b** (Fig. 4) positioned between the first straight segment **A6** and the second straight segment **15a**. The first straight segment **A6**, the second straight segment **15a**, and the twisted segment **14b** engage the second polygonal interface **16**, and are all unitarily formed integral to the first polygonal interface or the second polygonal interface. The twisted segment **14b** is twisted from about 0 degree 10' to about 1 degree between the first straight segment **A6** and the second straight segment **15a**. Applicant is reminded that the method of forming the segments integral to the first or second polygonal interfaces is not germane to the issue of patentability of the device itself. Therefore, this limitation has been given limited patentable weight. See MPEP ' 2113.

Regarding claim 15, the mounting device **11** comprises a flange. Column 2, in lines 55-58, states that 11 is a hub portion. Thus, the hub, equivalent to the flange, is not shown. Figure 1 merely shows the shaft 11 of the hub.

Regarding claim 16, the first polygonal interface **14a** comprises a male polygonal length with the twisted segment **14b** being twisted from about 0 degree 20' to about 0 degree 50'.

Regarding claim 17, the first polygonal interface **14a** has a relative eccentricity of from about 1.5% to about 4%.

Regarding claim 18, the shaft **14,15** or the mounting device **11** are straight.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 5-8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newell, 3,865,500 (see marked-up attachment provided in last Office action), in view of Bunce, 5,899,813.

Regarding claim 1, Newell discloses, in Figure 1, a coupling comprising a driving member **11** and a driven member **14,15**. The driving member **11** has a first polygonal interface **14a**. The driven member **14,15** has a second polygonal interface **16**. The first polygonal interface **14a** includes a first straight segment **A6**, a second straight segment **15a**, and a twisted segment **14b** (Fig. 4) positioned between the first straight segment **A6** and the second straight segment **15a**. The first straight segment **A6**, the second straight segment **15a**, and the twisted segment **14b** engage the second polygonal interface **16**, and are all unitarily formed integral to the first polygonal interface or the second polygonal interface. However, Newell fails to disclose the first polygonal

interface **14a** selected from the group consisting of concave and convex surfaces. Bunce teaches, in Fig. 4B, a first polygonal interface selected from the group consisting of concave and convex surfaces as part of a design consideration to eliminate localized stress areas (col. 1, lines 56-61). Therefore, as taught by Bunce, it would have been obvious to one of ordinary skill in the art at the time the invention was made to design the first polygonal interface selected from the group consisting of concave and convex surfaces to eliminate localized stress areas. Applicant is reminded that the method of forming the segments integral to the first or second polygonal interfaces is not germane to the issue of patentability of the device itself. Therefore, this limitation has been given limited patentable weight. See MPEP ' 2113.

Regarding claim 5, the driving member **11** comprises a shaft **14,15** having a male polygonal length. The twisted segment **14b** is twisted from about 0 degree 20' to about 0 degree 50'.

Regarding claim 6, the driving member **11** or the driven member **14,15** is straight.

Regarding claim 7, the first polygonal interface **14a** has a relative eccentricity of from about 1.5% to about 4%.

Regarding claim 8, given the modification, the driven member **14,15** comprises a shaft having a concave male polygonal interface with a number of sides selected from the group consisting of 3 to 12.

Regarding claim 19, Newell, as discussed above, disclose the shaft **14,15** having a male polygonal length with a number of sides selected from the group consisting of 3 to 12; however, the male polygonal length is not concave. Bunce discusses, in column 2 in line 60, that polygonal lengths have been known to be either straight or concave as part of prior design choices. Therefore, as taught by Bunce, it would have been obvious to one of ordinary skill in the art at the time the invention was made to design the male polygonal length as a concave male polygonal length as part of prior design choices versus a straight polygonal length.

Response to Arguments

Applicant's arguments filed February 2, 2005 have been fully considered but they are not persuasive.

In regards to Newell teaching the male member being in two pieces, applicant is reminded that the term "unitarily formed together" is a broad concept, and each of the segments of Newell are unitarily formed together as to form a whole unit. The examiner

suggests amending the claims to indicate that the segments are homogenous to each other.

In regards to Bunce teaching away from Newell as Bunce teaches an interference fit between the flange and the shaft instead of selectively engageable members that can be engaged and disengaged at any time, applicant is reminded that the motivation to combine the references does not rely on the interference fit but rather the shapes of the polygonal interfaces for mating with each other. The mere fact that Bunce teaches interference fit versus non-interference fit has nothing to do with the fact that different polygonal interfaces mating with each other have been taught by Bunce. In any event, isn't applicant's connection considered an interference fit since the male polygonal interface at the twisted segment interferes with the female polygonal interface.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 571-272-7083. The examiner can normally be reached from 9:30-5:30. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 571-272-7087. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

E.G.
April 18, 2005

DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
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